

**DISCOVERY OF THE MILLIPED
PLEUROLOMA FLAVIPES (POLYDESMIDA:
XYSTODESMIDAE) IN TEXAS, AND OTHER RECORDS
FROM WEST OF THE MISSISSIPPI RIVER¹**

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ABSTRACT: *Pleurolooma flavipes* Rafinesque, the westernmost representative of the east-Nearctic xystodesmid milliped fauna, is reported from Bowie County, Texas, the first record from this state. Other new localities from west of the Mississippi River are listed, one being a disjunct site in Lafayette Parish, Louisiana, approximately 200 mi (320 km) south of the contiguous range; it is believed to represent an allopatric population. These sites extend the distributions of the species, genus, tribe Rhysodesmini, and family some 75 mi (120 km) westward in Oklahoma; the published locality in Ellsworth County, Kansas, is the westernmost in the Central Plains for these taxa.

KEY WORDS: *Pleurolooma flavipes*, Polydesmida, Xystodesmidae, Mississippi River, Texas, Oklahoma, Louisiana.

The milliped family Xystodesmidae occupies three areas of North America in addition to those in east Asia and the Mediterranean region of Europe, Africa, and the Middle East (Hoffman 1978, Fig. 2; Shelley 1987, Fig. 1): the eastern United States and southern Ontario and Québec, Canada, from the Central Plains eastward; the southern periphery of Texas to El Salvador; and along the Pacific Coast from southern Alaska to Los Angeles, extending eastward into western Montana. Two species occur outside these areas in the United States: *Stenodesmus tuobitus* (Chamberlin), in southern New Mexico and Culberson County, Texas, and *Rhysodesmus chisosi* Shelley, in Brewster County, Texas (Shelley 1987, 1989, 1992). The species with the greatest distribution in the family is *Pleurolooma flavipes* Rafinesque, which is the westernmost representative of the east-Nearctic fauna from the Oklahoma/Texas border northward. Including the records herein, its contiguous range encompasses some 985 mi (1,576 km), north/south, in the west, 584 mi (934 km) in the east, and 1,130 mi (1,808 km), east/west. The northernmost localities are in Cass County, North Dakota, Ingham County, Michigan, Essex County, Ontario, and Franklin County, Massachusetts; the southernmost are in Cleveland County, North Carolina, and Madison Parish, Louisiana; and the easternmost are from Franklin County, Massachusetts, and the western shore of Chesapeake Bay, Virginia (Shelley 1980, 1988; Hoffman 1999). Shelley (1980, 1990) predicted eventual discovery in northeastern Texas and shaded this corner of the state in his distribution map (1980, Fig. 29), and this prediction can now be confirmed, as the third author collected individuals of both sexes near Beaver Dams Community, Bowie County, in April 2002. They are deposited in the invertebrate collection of the North Carolina State Museum of Natural Sciences.

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Pleurolooma flavipes was described and fully illustrated by Shelley (1980), as part of a generic revision; the characteristic configuration of the gonopods, the male copulatory appendages, is shown in Fig. 11. It is a component of the tribe Rhysodesmini, otherwise represented in Texas by *Rhysodesmus texicolens* (Chamberlin), in the Rio Grande Valley (Cameron, Hidalgo, Starr, Webb, and Willacy counties); *R. chisosi*, in the Chisos Mountains, Big Bend National Park; and *S. tuobitus*, in McKittrick Canyon, Guadalupe Mountains National Park (Hoffman 1970; Shelley 1987, 1989). Shelley (1990) reported *S. tuobitus* from Hidalgo County, around 984 mi (1,574 km) southeast of McKittrick Canyon, but this locality is implausible and is herewith deleted pending confirmation with fresh material. As in all rhysodesminines, the somatic features of *P. flavipes* are highly variable, while the gonopods are relatively constant. It is one of the few xystodesmids north of the Rio Grande that can be reliably identified from females as well as males because of the diagnostic lobes on the caudal margins of the sterna, which are apically broad in the Bowie County specimens, in contrast to the subtriangular lobes in the North Carolina individual illustrated by Shelley (1980, Fig. 6). The species exhibits three color patterns - bimaculate, trimaculate, and banded - and the Texas specimens are bimaculate with a black dorsal base color and yellow paranota.

New localities for *P. flavipes* from west of the Mississippi River expand the distributions of the species, genus, tribe, and family westward by around 75 mi (120 km) in Oklahoma (Fig. 1). The range west of the Mississippi is shown in the accompanying map; the westernmost localities are in Noble County, Oklahoma (cited herein), Ellsworth County, Kansas (Shelley 1980), and Cuming and Lincoln counties, Nebraska (Kenyon 1893), with that in Kansas, located near the center of the state, forming the western limits for the species, genus, tribe, and family. No records are available from South Dakota, but *P. flavipes* surely occurs in the eastern periphery, along the Missouri, Big Sioux, and Minnesota Rivers. The new locality in Louisiana is detached from the contiguous area by around 200 mi (320 km). While *P. flavipes* may yet be discovered in intervening parishes, much of this area, particularly the Kisatchie National Forest in Grant, Natchitoches, Rapides, and Winn parishes, has been well collected without the discovery of a single individual. Consequently, we believe that an allopatric population exists in southern Louisiana. Published records from west of the Mississippi River are cited by Shelley (1980), and new ones are listed below. Acronyms of repositories are as follows:

EIL – Zoology Department, Eastern Illinois University, Charleston.

FMNH – Field Museum of Natural History, Chicago, Illinois.

FSCA – Florida State Collection of Arthropods, Gainesville.

ISU – Entomology Department, Iowa State University, Ames.

MCZ – Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts.

NCSM – North Carolina State Museum of Natural Sciences, Raleigh.

- NDSU – Entomology Department, North Dakota State University, Fargo.
- NMNH – National Museum of Natural History, Smithsonian Institution, Washington, DC.
- OKSU – Emerson Entomological Museum, Oklahoma State University, Stillwater.
- OMNH – Sam Noble Oklahoma Museum of Natural History, University of Oklahoma, Norman.
- PMNH – Peabody Museum of Natural History, Yale University, New Haven, Connecticut.
- TBMNH – Thomas Burke Museum of Natural History, University of Washington, Seattle.
- UAAM – University of Arkansas Arthropod Museum, Fayetteville.
- UCD – Bohart Entomological Museum, University of California at Davis.
- UCO – Biology Department, University of Central Oklahoma, Edmond.
- UMN – Department of Entomology, University of Minnesota, St. Paul.
- UMO – Enns Entomological Museum, University of Missouri, Columbia.
- VMNH – Virginia Museum of Natural History, Martinsville.
- WTAMU – Department of Life, Earth, and Environmental Sciences, West Texas A&M University, Canyon.

NEW RECORDS

ARKANSAS: *Jackson Co.*, Newport, ♂♂, ♀♀, 2 April 1961, D. Combs (FSCA). *Phillips Co.*, St. Francis Nat. For., Storm Creek Lake Area, 4♂, 6♀, 16 June 1999, R. M. Shelley (FMNH, NCSM). *Sebastian Co.*, Ft. Smith landfill, 4♂ but huge numbers in forest/pasture ecotone, 16 June 1994. C. E. Carlton (UAAM).

IOWA: *Boone Co.*, Ledges St. Pk., ♂, ♀, 4 June 1984, R. E. Lewis (NCSM). *Delaware Co.*, Delhi, 2♂, ♀, date and collector unknown (PMNH). *Dickinson Co.*, Cayler Prairie, ♂♂, ♀♀, date and collector unknown (ISU). *Hancock Co.*, Pilot Knob For., 6♂, 5♀, H. W. Levi (MCZ). *Henry Co.*, Mt. Pleasant, 2♂, date and collector unknown (NMNH). *Pocahontas Co.*, Kaslow Prairie, ♂♂, ♀♀, 15 June 1966, K. L. Bean (ISU). *Story Co.*, Ames, ♀, 1941, collector unknown (NMNH).

KANSAS: *Johnson Co.*, Bonner Springs, ♂, 10 October 1973, W. S. Graig (UMO). *County Unknown*, Tall Oaks, ♂, 12 June 1964, H. S. Dybas (FMNH).

LOUISIANA: *Lafayette Co.*, Lafayette, on ground at night, ♂, 22 August 1996, L. A. Baptiste (UCD).

MINNESOTA: *Anoka Co.*, Coon Creek, ♂, 19 September 1933, A. C. Hodson (UMN). *Becker Co.*, Pickerel Lake, 2♂, ♀, 3 September 1975, A. Friskop (NDSU). *Honston Co.*, Mississippi River bluff, 2♀, 30 May 1941, Wing (UMN); Mississippi River bluff N of New Albin Iowa, ♂, ♀, 23 May 1954, C. E. Mickel (UMN); and 3 mi (4.8 km) NE Eitzen, along Winnebago Cr., ♂, ♀, 23 May 1954, collector unknown (UMN). *Martin Co.*, Fairmont, in cornfield, ♂, 3♀, juvs., 7 July 1942, 20 June 1944, G. B. Simpson (UMN). *Nobles Co.*, Worthington, 3♂, 5♀, 1 July 1941, C. E. Stower (UMN). *Wabasha Co.*, W of Lake Pepin, 2♂, ♀♀, 4 July 1907, collector unknown (TBMNH). *Washington Co.*, Scandia, Second Lake, ♂, 8 July 1958, L. V. Knutson (VMNH).

MISSOURI: *Bollinger Co.*, Glenallen, ♀, date unknown, A. Henderson (UMO). *Camden Co.*, Camdenton, 2♂, 15 May 1953, G. T. Riegel (EIL). *Clay Co.*, Coolie Lake, ♂, 30 May 1958, J. R. Heitzman (FSCA). *Pettis Co.*, 9 mi (14.4 km) S Sedalia, Friendly Prairie, ♂, 9 June 1978, collector unknown (UMO). *Stone Co.*, N of Kimberly City, Table Rock Lake, ♂, 25 May 1974, S. E. Thewke (UMO).

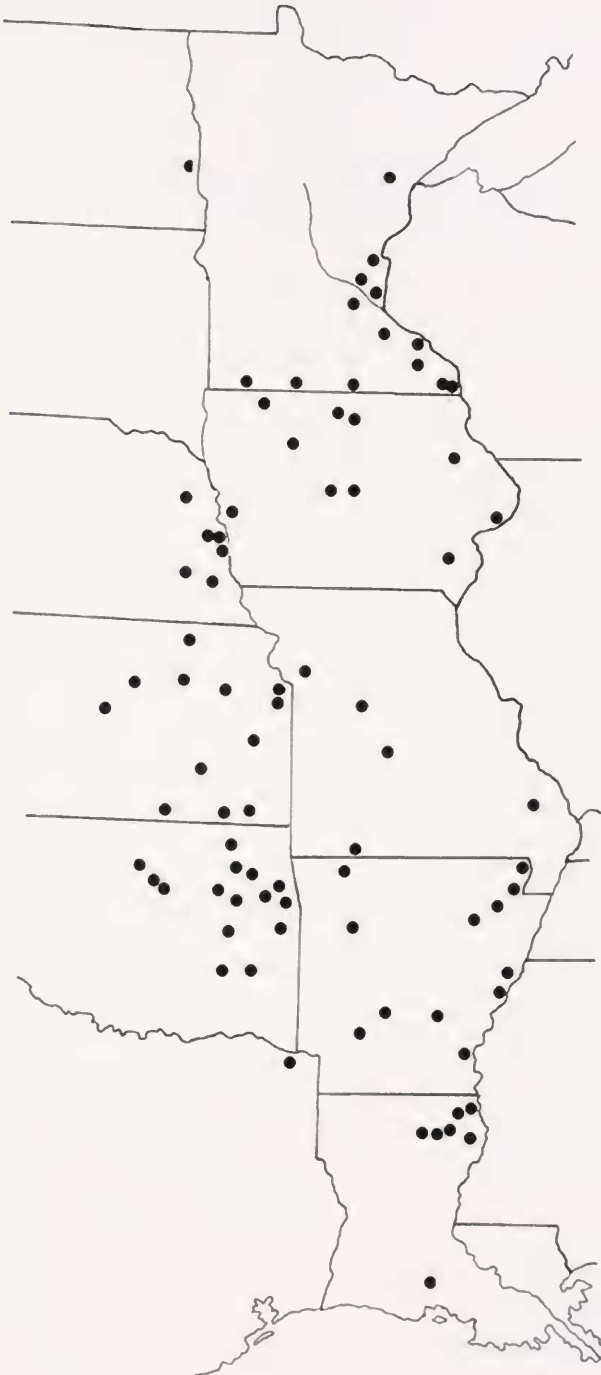


Fig. 1. Distribution of *Pleuroloma flavipes* west of the Mississippi River.

NEBRASKA: *Douglas Co.*, Waterloo (misspelled as "Wamelo"), ♀, 26 February 1949, collector unknown (NMNH). *Sarpy Co.*, Bellevue, Fontanelle Forest Nature Center, ♂, 22 June 1986, Dietz & Benedict (NCSM).

OKLAHOMA: *Cherokee Co.*, Greenleaf St. Pk., ♀♀, juvs., date unknown, J. Brooks (UCO). *Latimer Co.*, locality not specified, ♂, ♀, 9 June 1931, R. D. Bird (OMNH). *Mayes Co.*, Locust Grove, ♂, 2♀, 20 May 1972, D. C. Arnold (OKSU). *McIntosh Co.*, Eufala, by lake, ♂, June 1994, W. D. Sissom (WTAMU). *Noble Co.*, Perry, ♀, 6 June 1965, D. C. Arnold (OKSU) **Westernmost Oklahoma Record**. *Nowata Co.*, Lenapah, ♂, ♀, 19 May 1965, D. C. Arnold (OKSU). *Payne Co.*, Stillwater, on golf course greens, ♂♂, ♀♀, 26 June 1962, D. E. Howell (OKSU); and Ripley, Ghost Hollow, ♀, date unknown, McKenna (OKSU). *Pittsburgh Co.*, McAlester, ♂, 28 June 1972, J. Sallee (OKSU). *Rogers Co.*, Foyil, ♂, 3 June 1971, D. C. Arnold (OKSU). *Sequoyah Co.*, Gore, ♂, 20 April 1952, A. C. Cohen (SMUO). *Wagoner Co.*, 3 mi (4.8 km) S Porter, ♂, 25 May 1977, D. C. Arnold (OKSU).

TEXAS: *Bowie Co.*, ca. 9.5 mi (15.2 km) NNW DeKalb, along US Hwy. 259 at Beaver Dams Community, ♂, 2♀, 20 and 27 April 2002, S. B. Smith (NCSM). **New State Record**.

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